IN THE ABSTRACT OF THE DISCLOSURE

A non-rotational casing hanger and seal assembly running tool for use in oil and gas drilling operations is disclosed having has a mandrel and a tool body that is carried by the mandrel. The tool body supports a plurality of latching segments for releasably connecting the tool body to a seal assembly. A plurality of latching dogs on the tool body releasably connect the tool body to a casing hanger. Axial movement between the tool body and mandrel operates a pressure responsive shuttle piston positioned on the mandrel to urge the seal assembly into sealing position. A ball valve positioned in the mandrel bore is operable between open and closed positions to allow independent operations to be carried out such as cementing the casing hanger in position through the mandrel bore and operating the shuttle piston to then allow overpull to unlatch the tool from the casing hanger for retrieval.